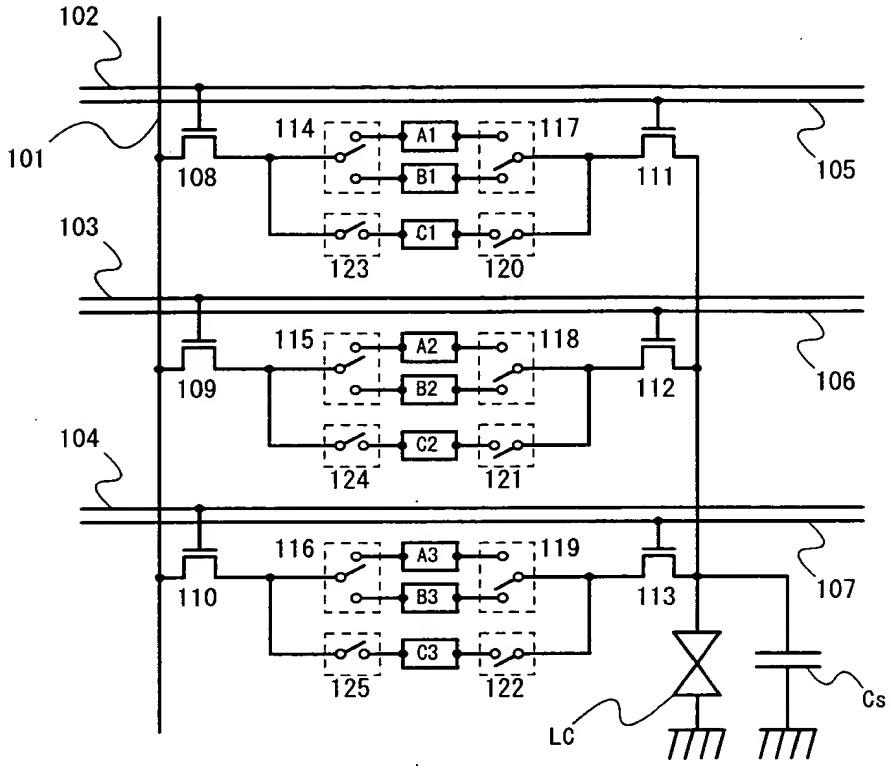

102
101
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
A1
B1
C1
A2
B2
C2
A3
B3
C3
LC
Cs

FIG. 1

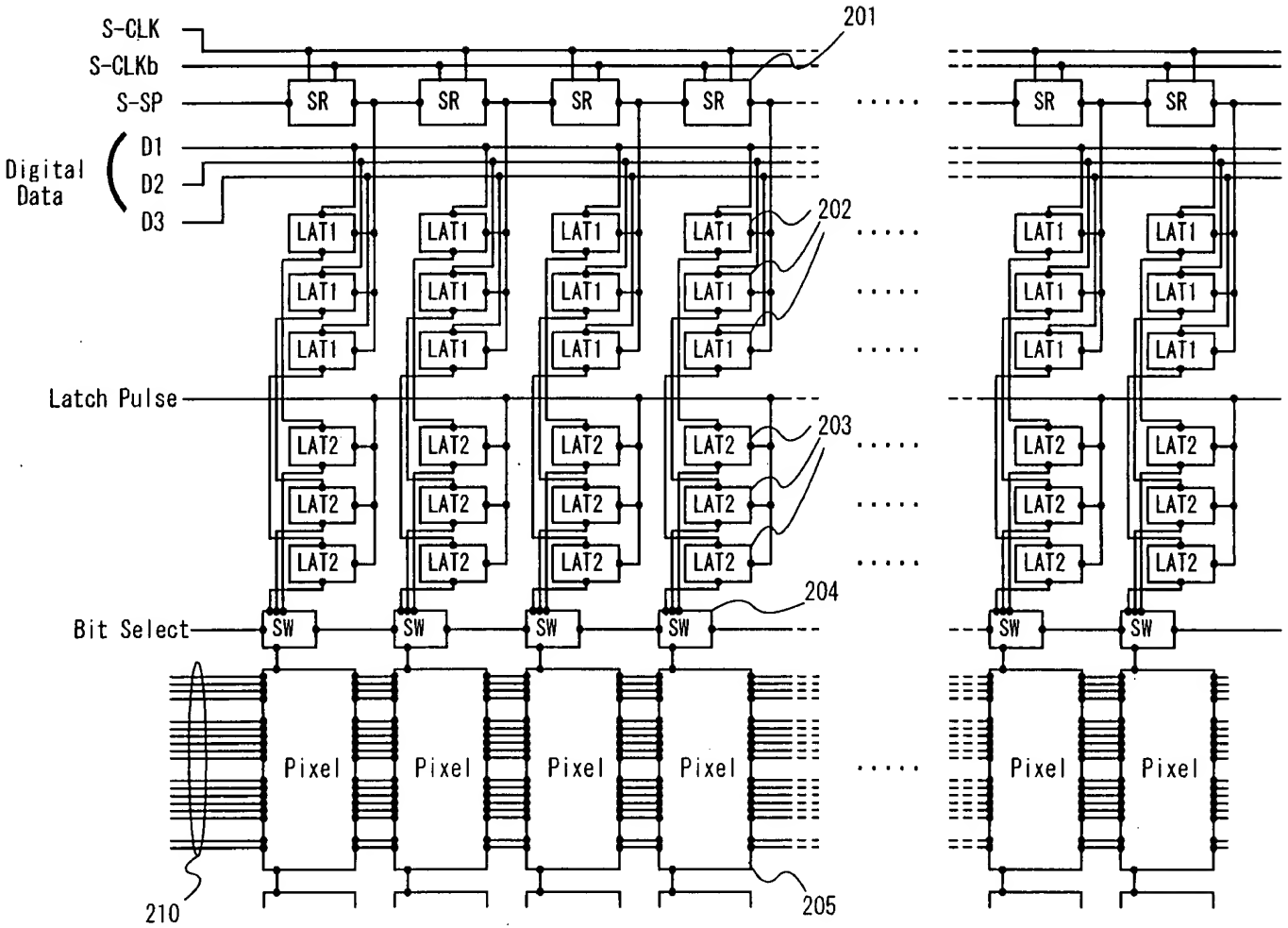

S-CLK
S-CLKb
S-SP
Digital Data
D1
D2
D3
Latch Pulse
Bit Select
SR
LAT1
LAT2
SW
Pixel
201
202
203
204
205
210

FIG. 2

FIG. 3A

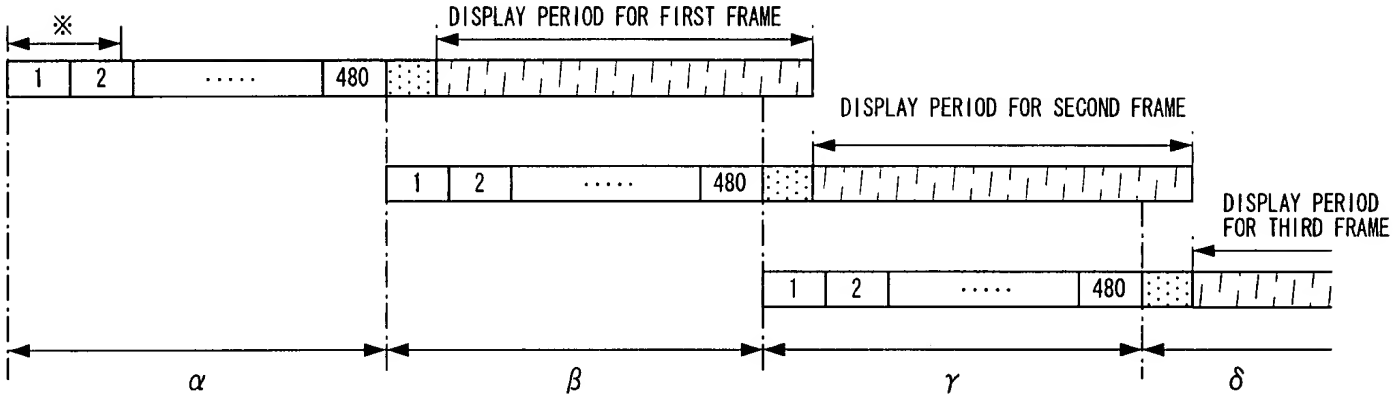



FIG. 3B

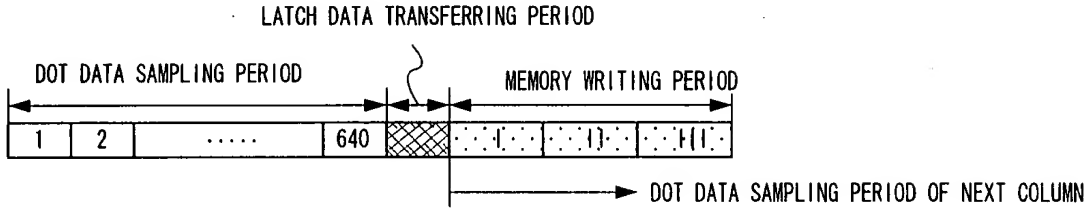
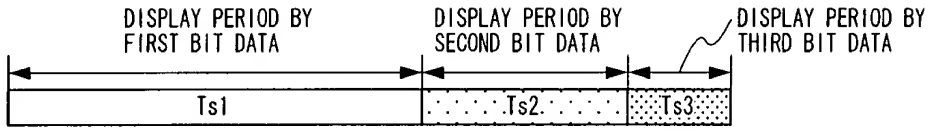



FIG. 3C



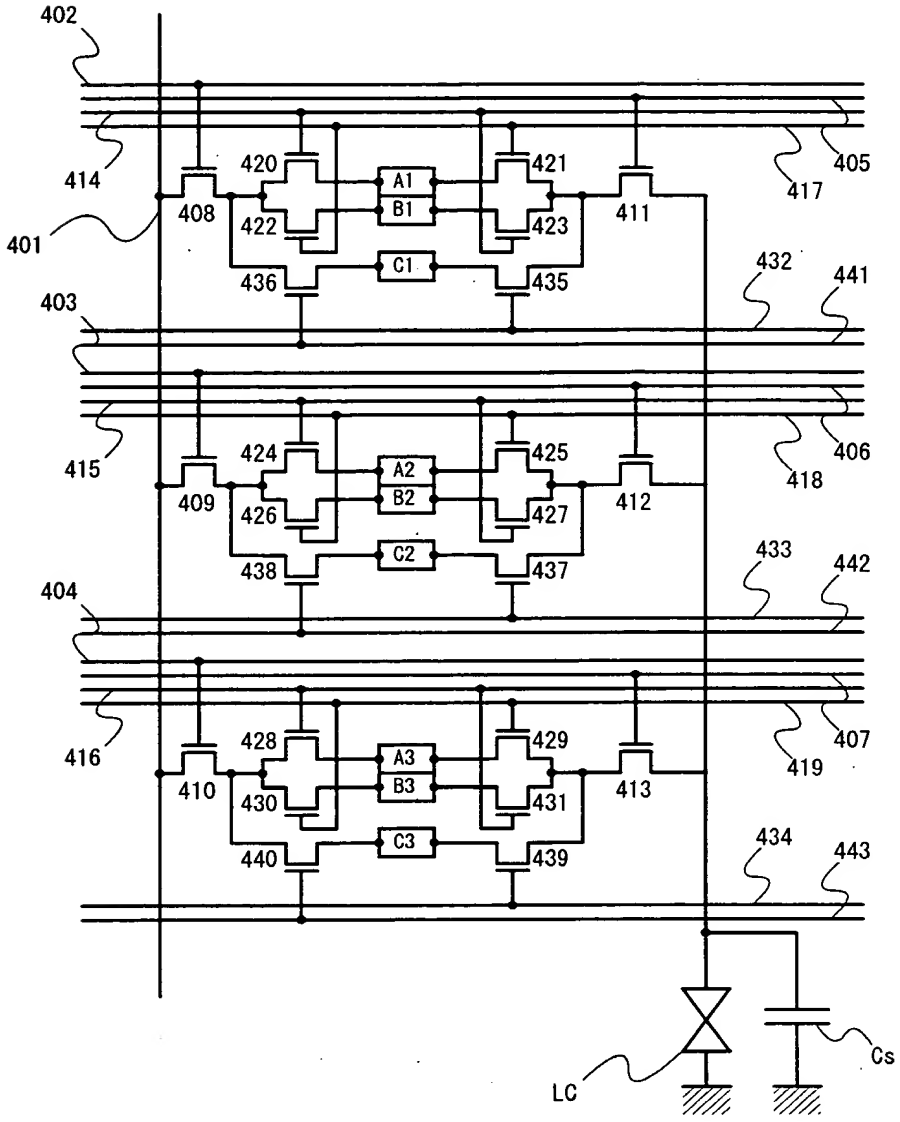

402
414
420
A1
421
405
417
408
B1
411
401
422
423
C1
436
435
432
441
403
415
424
425
406
418
A2
409
426
B2
427
412
C2
438
437
433
442
404
416
428
429
407
419
A3
410
430
B3
431
413
C3
440
439
434
443
LC
Cs

FIG. 4

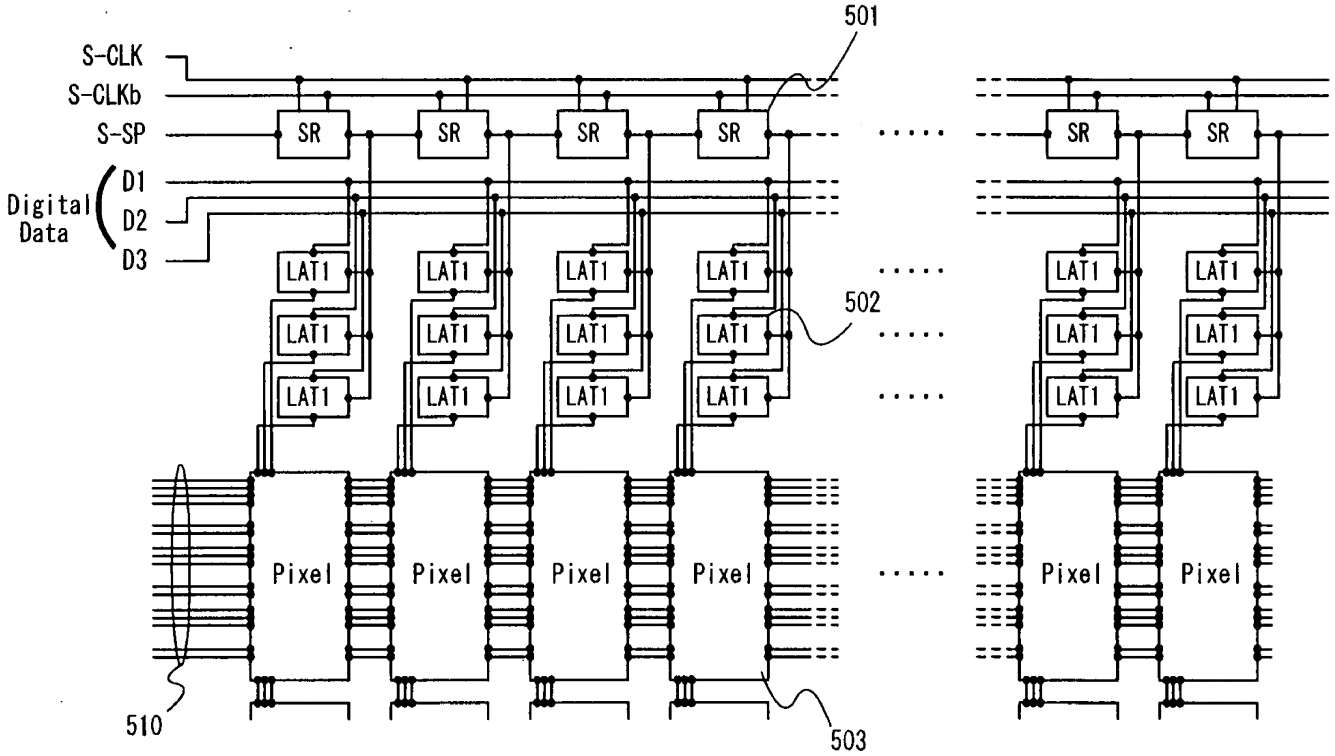

S-CLK
S-CLKb
S-SP
Digital Data
D1
D2
D3
SR
LAT1
Pixel
501
502
503
510

FIG. 5

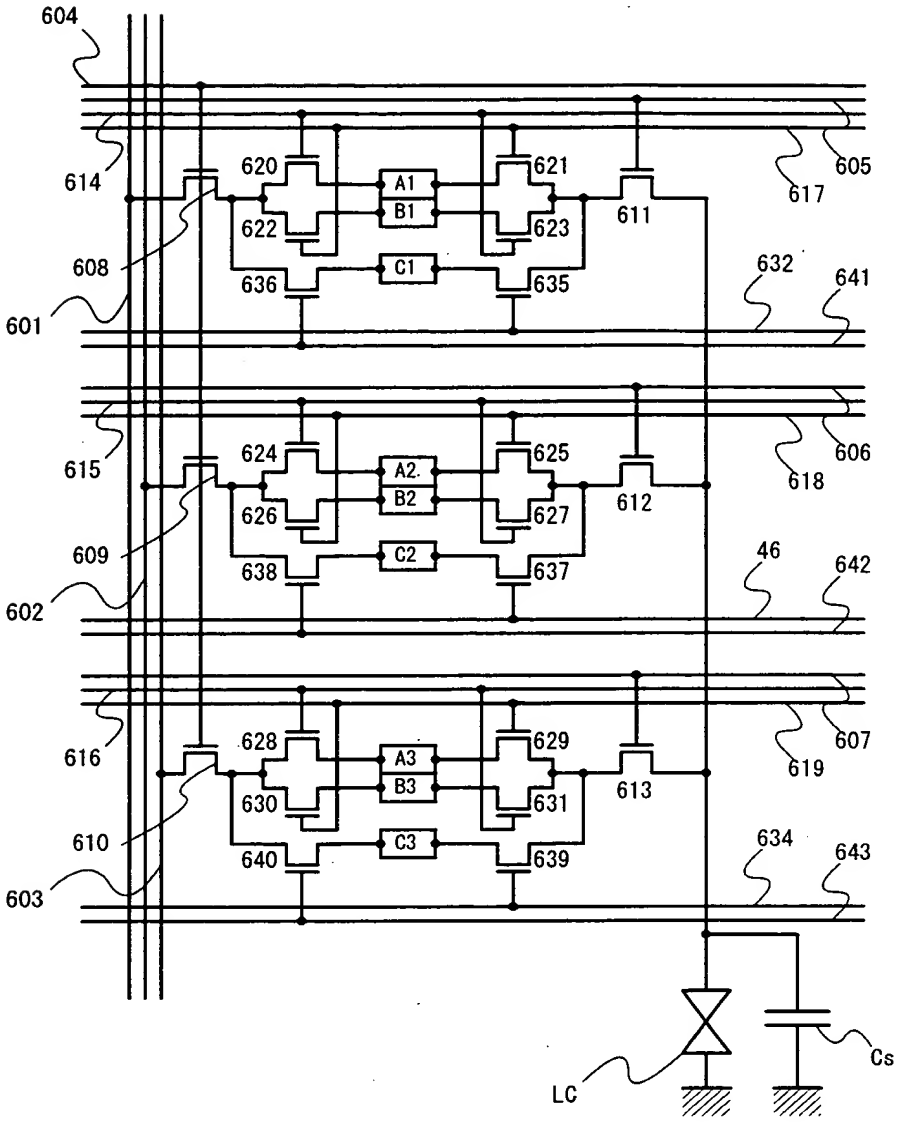

604
614
620
621
A1
B1
622
623
611
605
617
608
C1
636
635
632
641
601
615
624
625
A2
B2
626
627
612
606
618
609
C2
638
637
46
642
602
616
628
629
A3
B3
630
631
613
607
619
610
C3
640
639
634
643
603
LC
Cs

FIG. 6

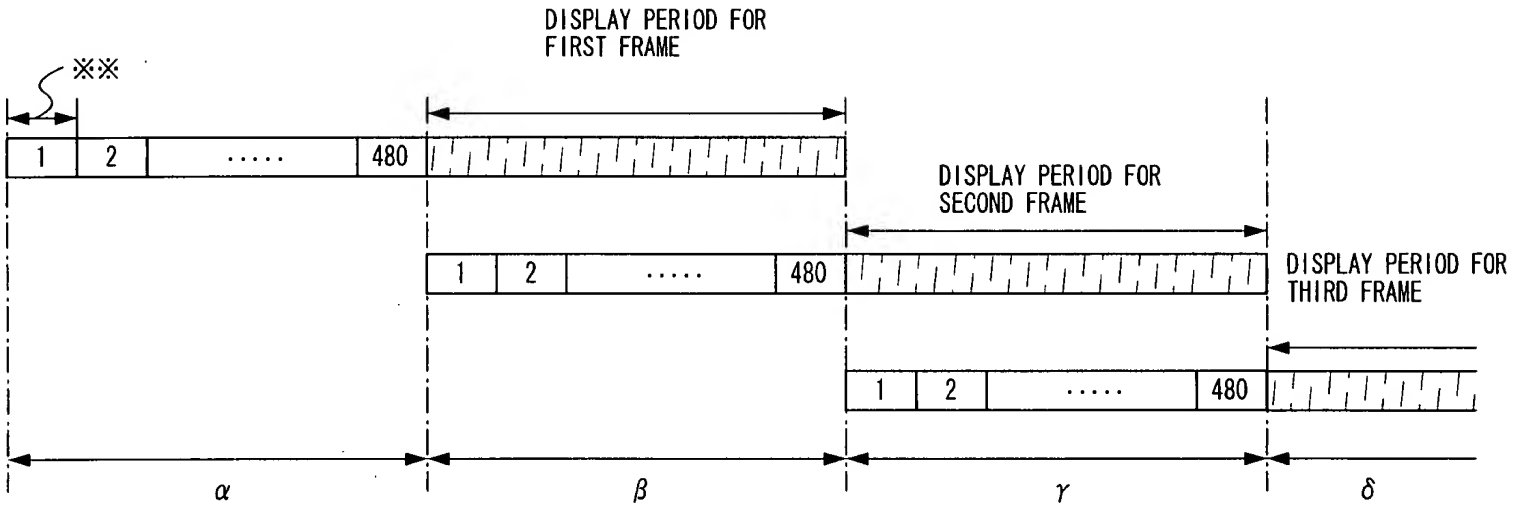



FIG. 7A

FIG. 7B

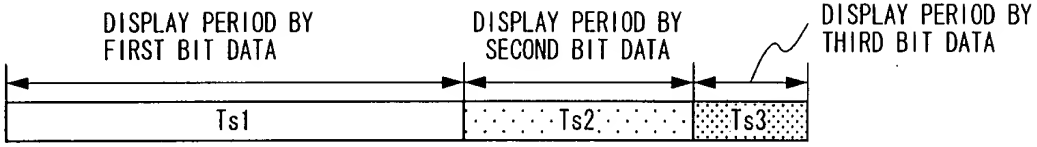



FIG. 7C

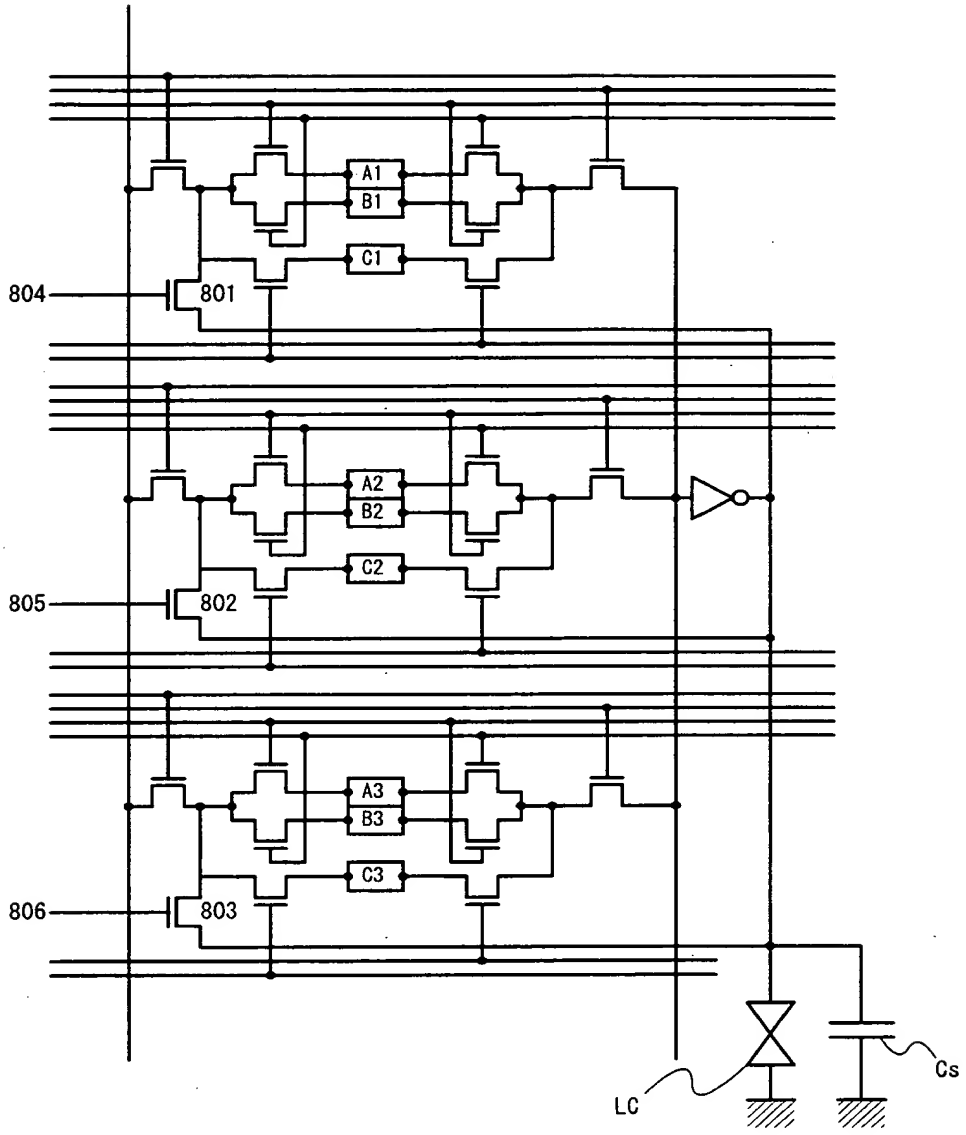



FIG. 8

FIG. 9A

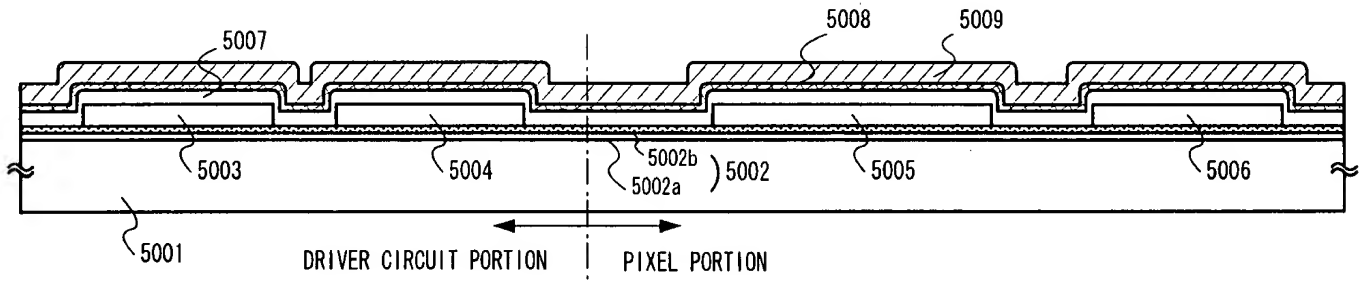



FIG. 9B

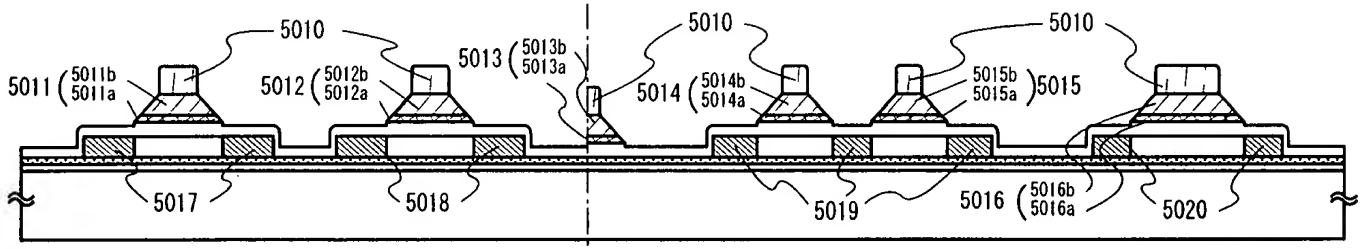



FIG. 9C

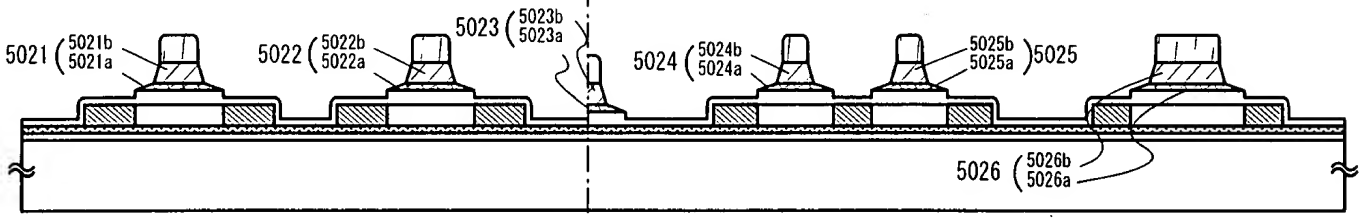


FIG. 10A

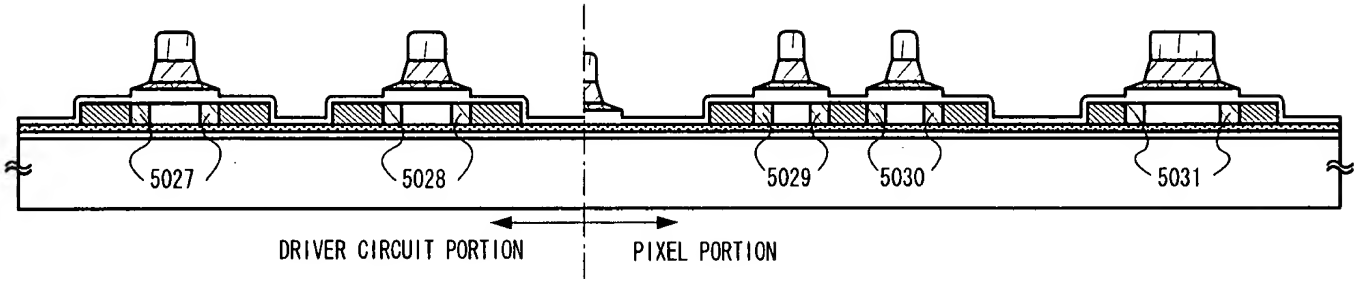



FIG. 10B

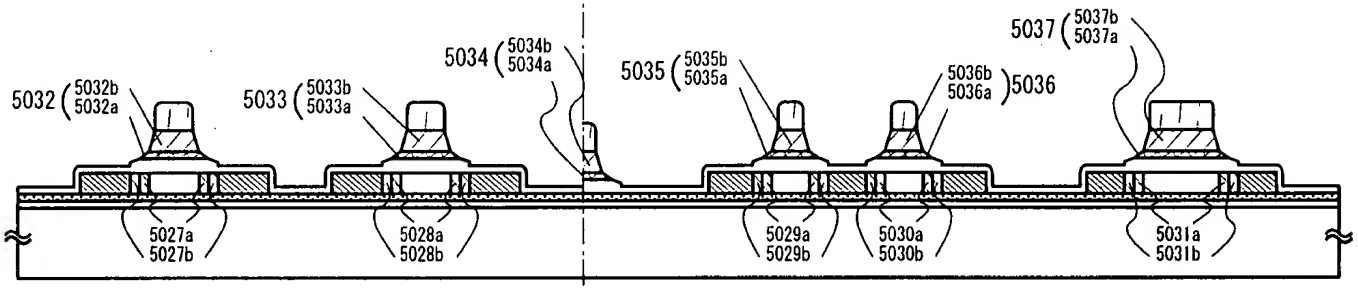
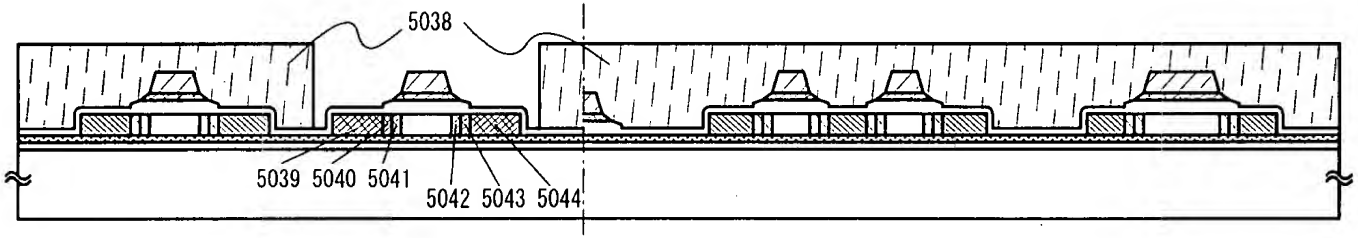



FIG. 10C



JP 2001-356366 A 2001.12.26

FIG. 11A

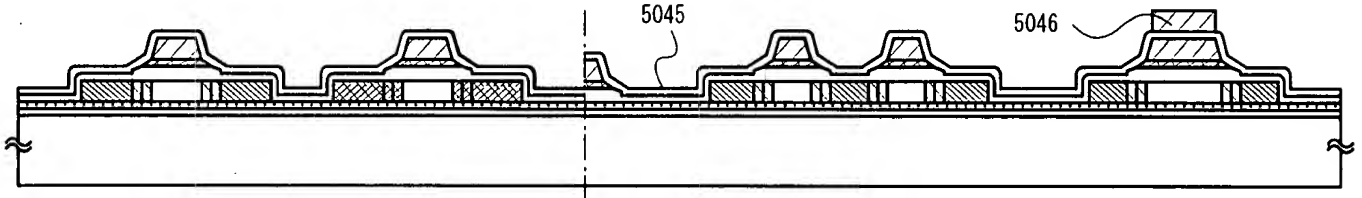



FIG. 11B

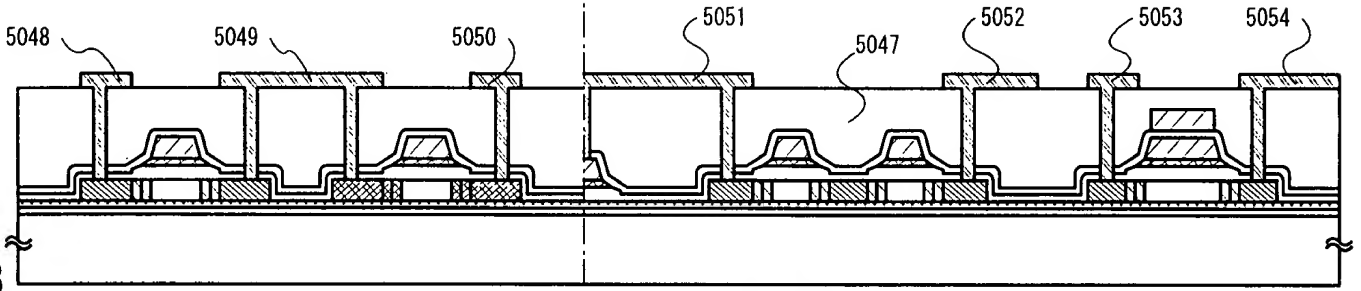
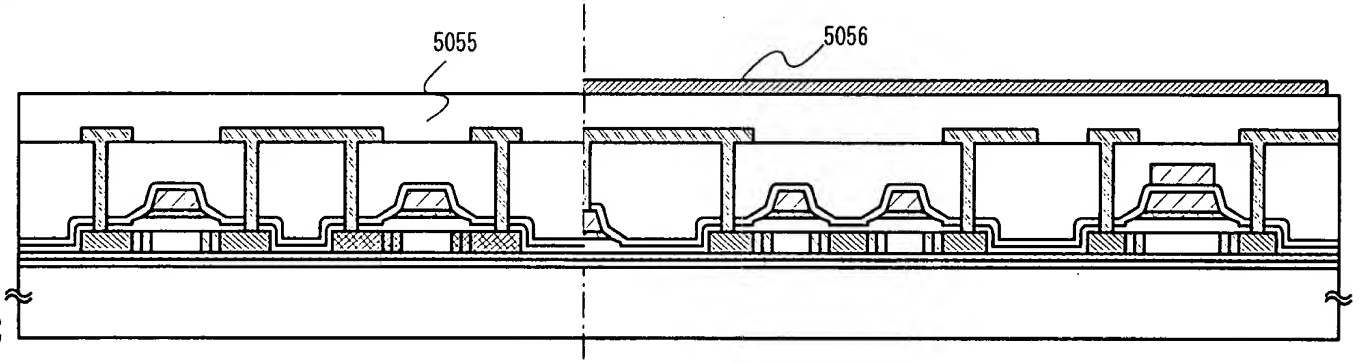



FIG. 11C



JP 2001-339068 A

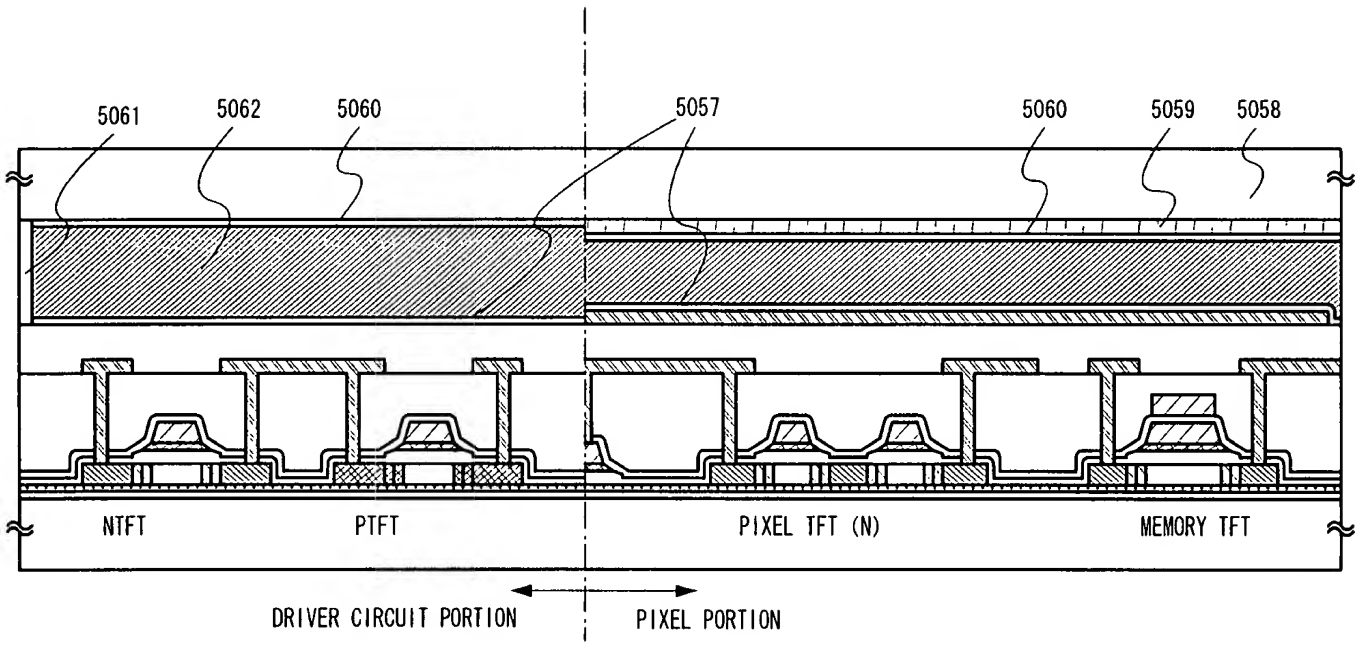



FIG. 12

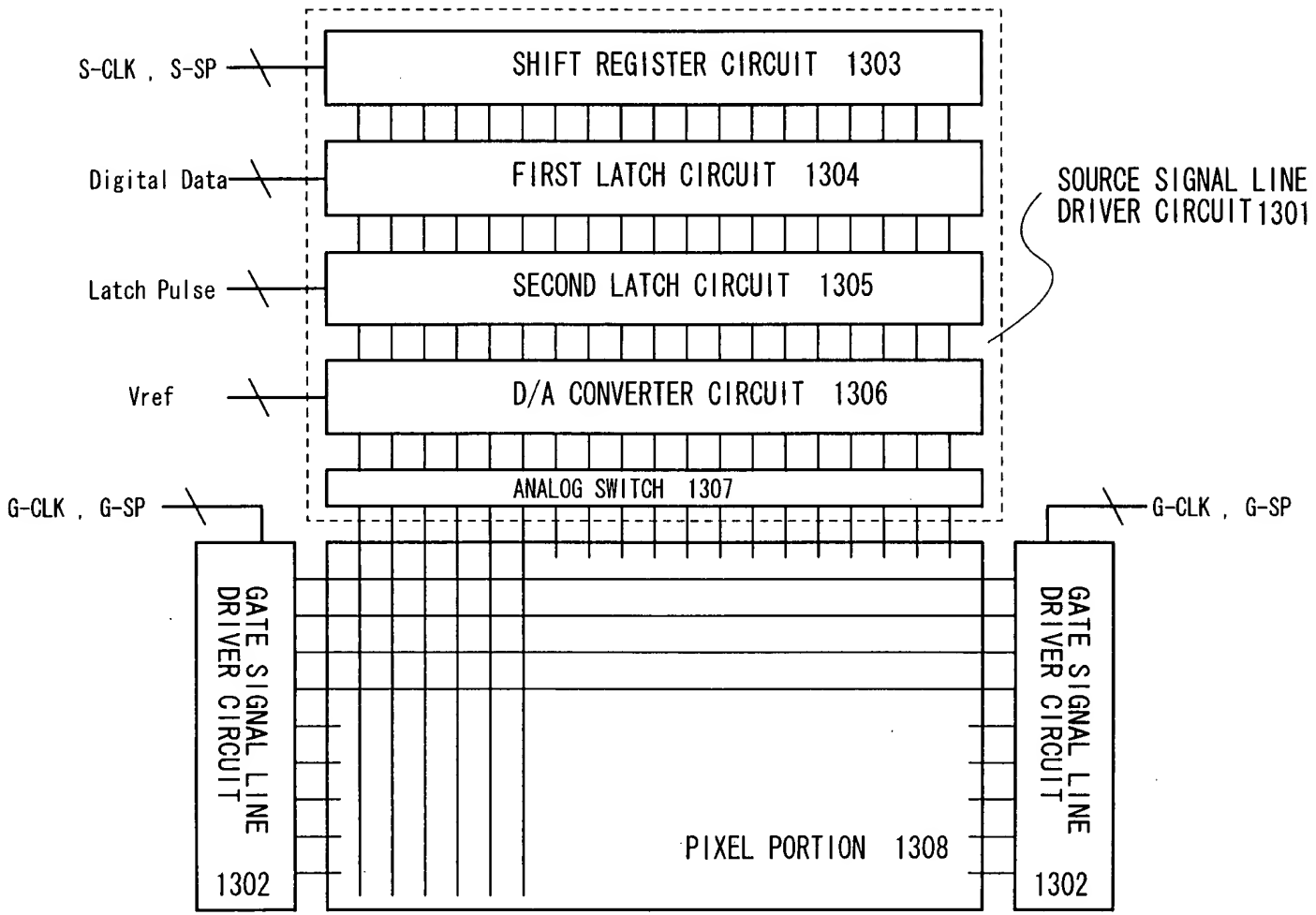

S-CLK , S-SP
SHIFT REGISTER CIRCUIT 1303
Digital Data
FIRST LATCH CIRCUIT 1304
SOURCE SIGNAL LINE DRIVER CIRCUIT 1301
Latch Pulse
SECOND LATCH CIRCUIT 1305
Vref
D/A CONVERTER CIRCUIT 1306
ANALOG SWITCH 1307
G-CLK , G-SP
G-CLK , G-SP
GATE SIGNAL LINE DRIVER CIRCUIT 1302
PIXEL PORTION 1308
GATE SIGNAL LINE DRIVER CIRCUIT 1302

FIG. 13

EP 2 575 360 A1

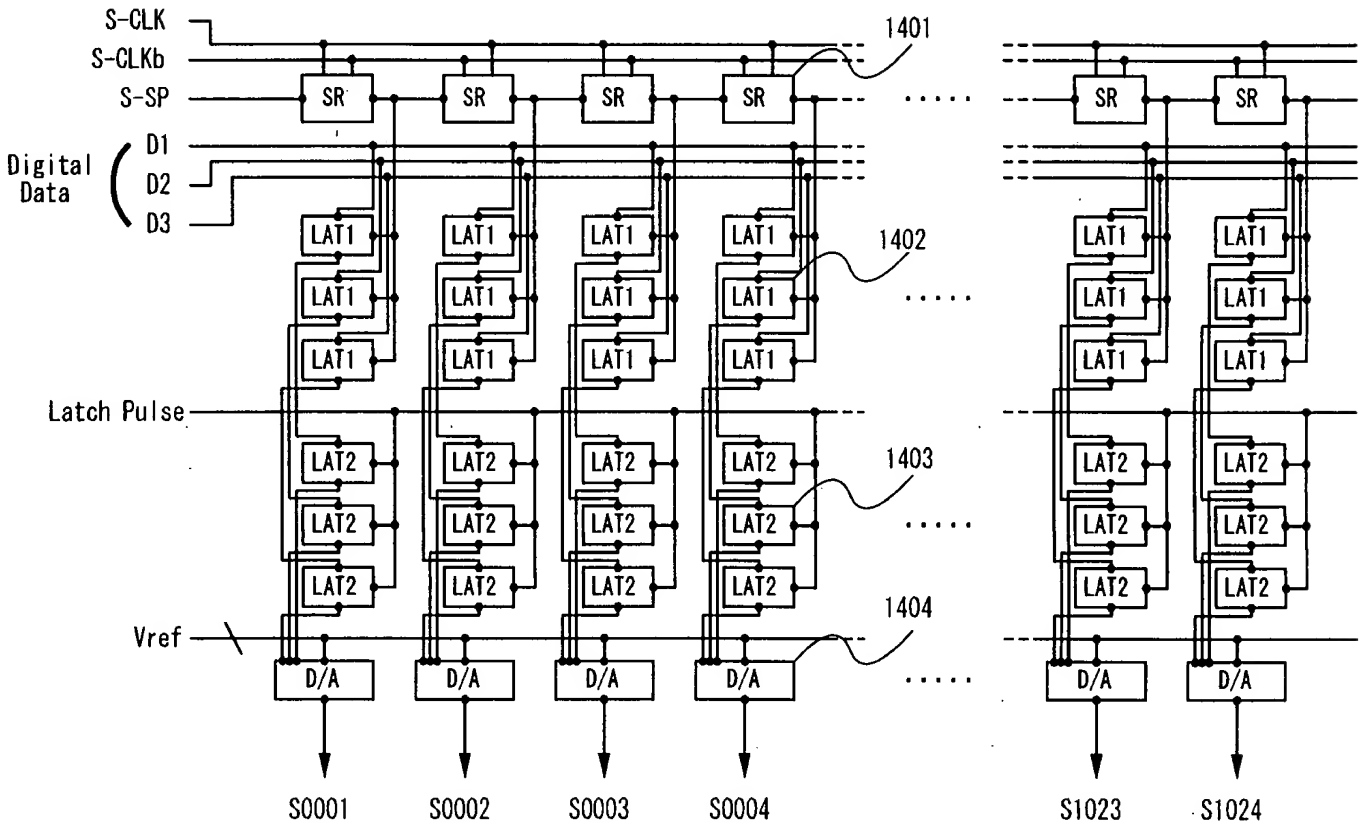



FIG. 14

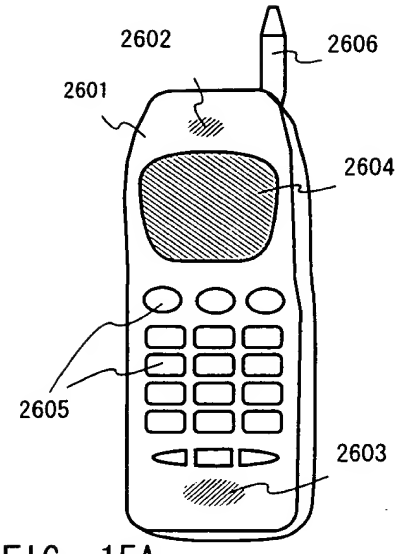



FIG. 15A

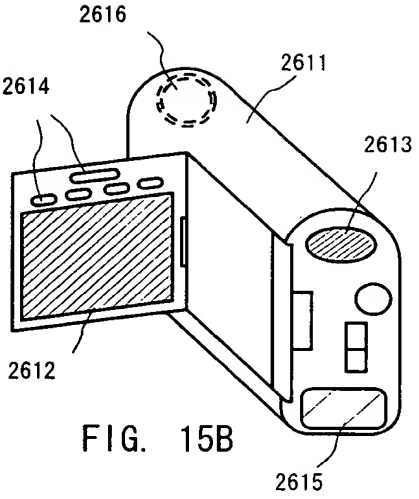



FIG. 15B

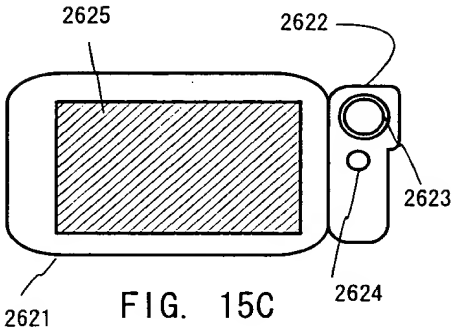



FIG. 15C

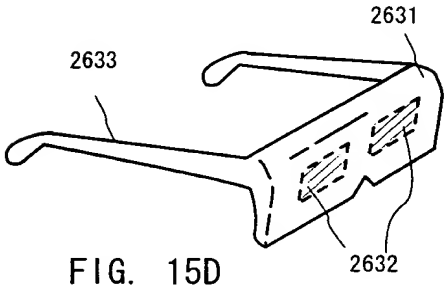



FIG. 15D

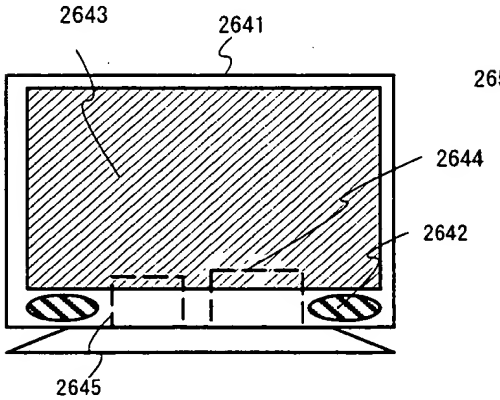



FIG. 15E

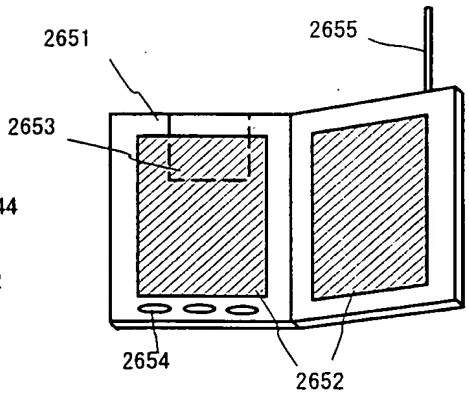



FIG. 15F

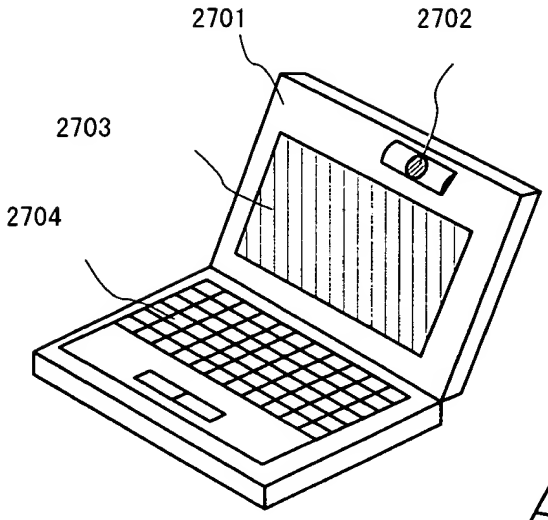



FIG. 16A

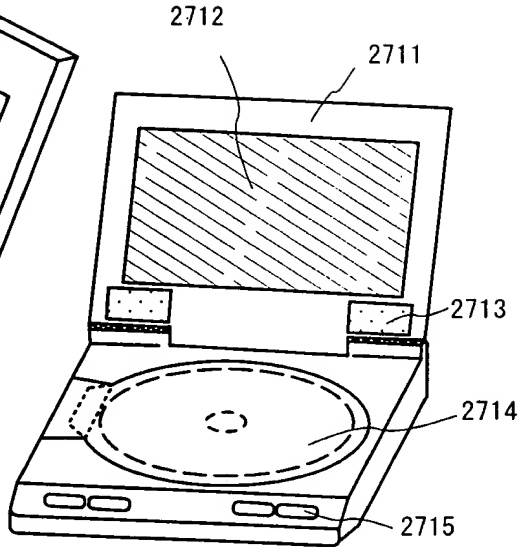



FIG. 16B

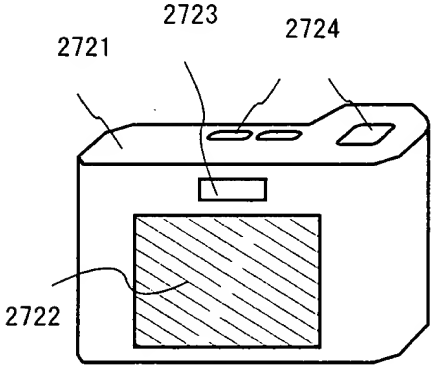



FIG. 16C

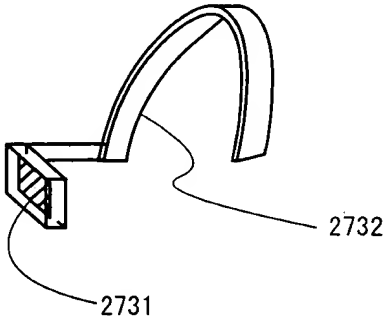



FIG. 16D

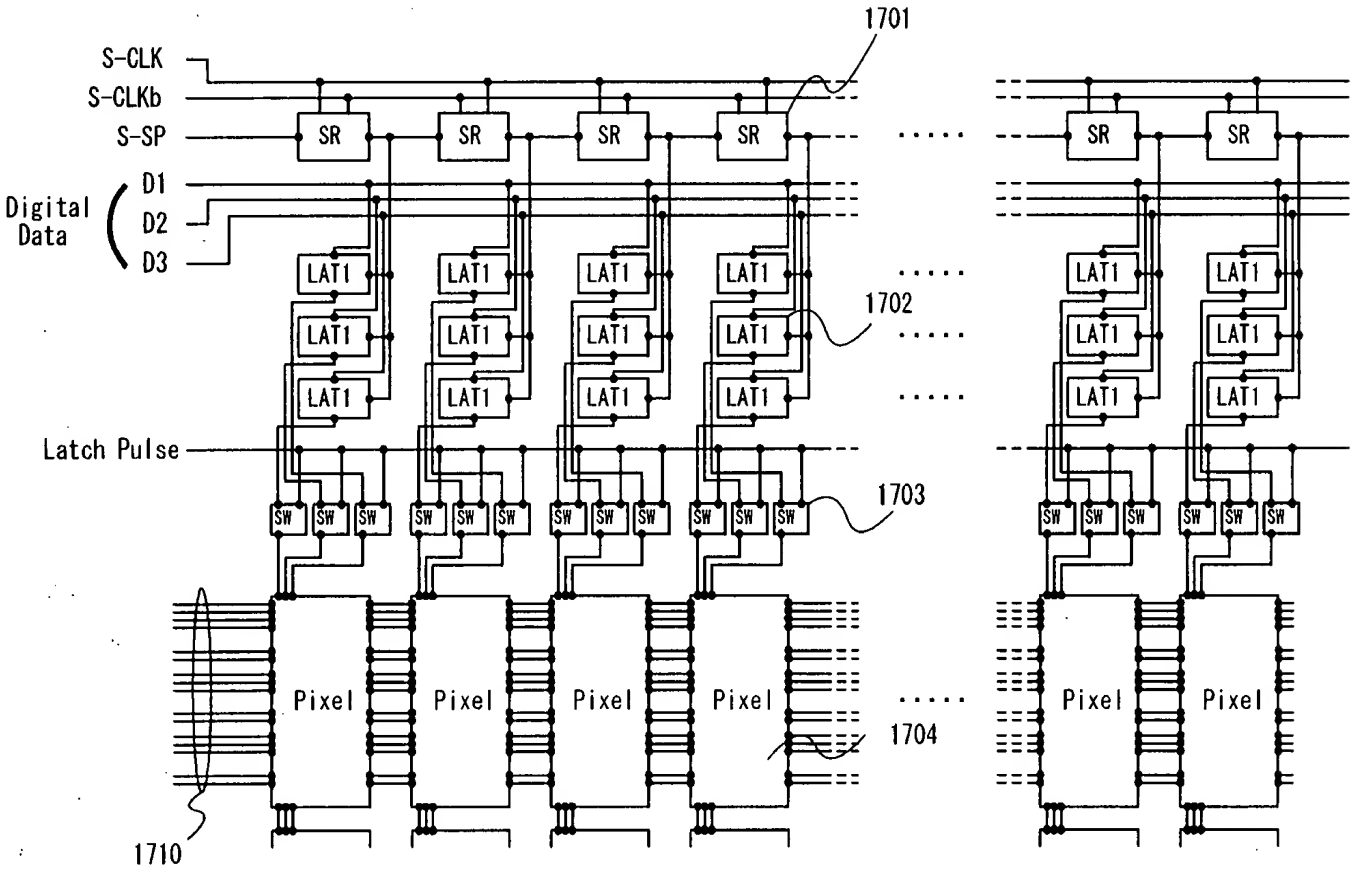

1701
S-CLK
S-CLKb
S-SP
Digital Data
D1
D2
D3
SR
LAT1
1702
Latch Pulse
SW
1703
Pixel
1704
1710

FIG. 17

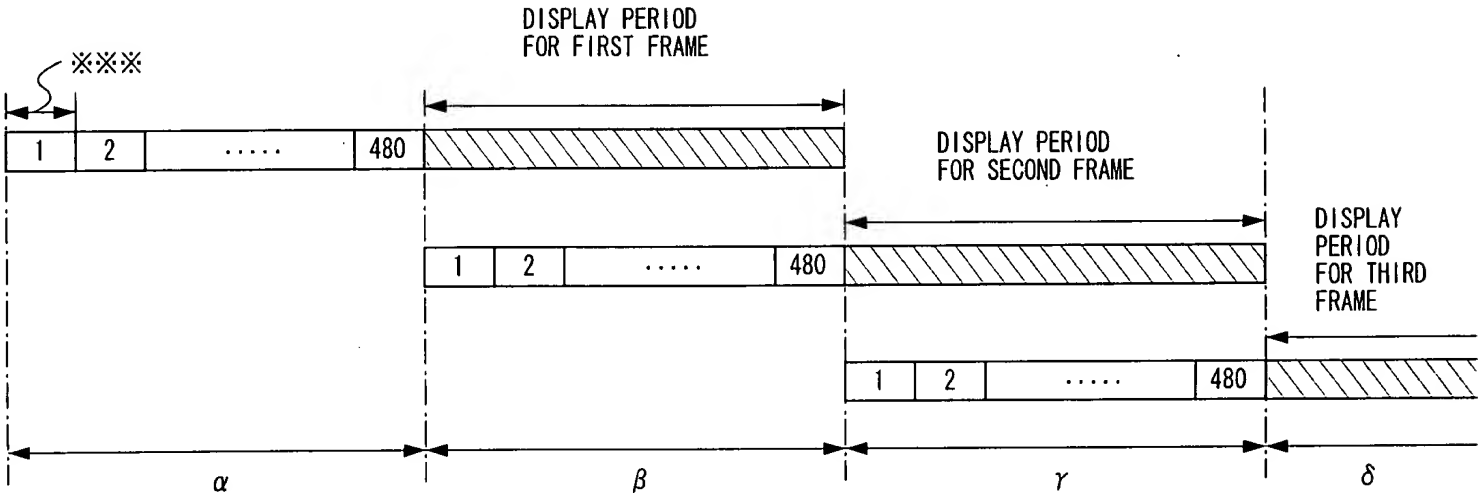



FIG. 18A

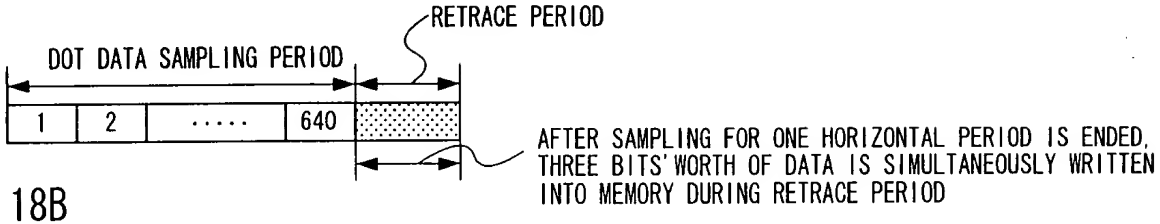



FIG. 18B

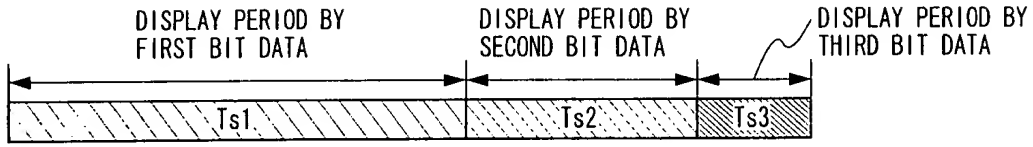



FIG. 18C

FIG. 19A

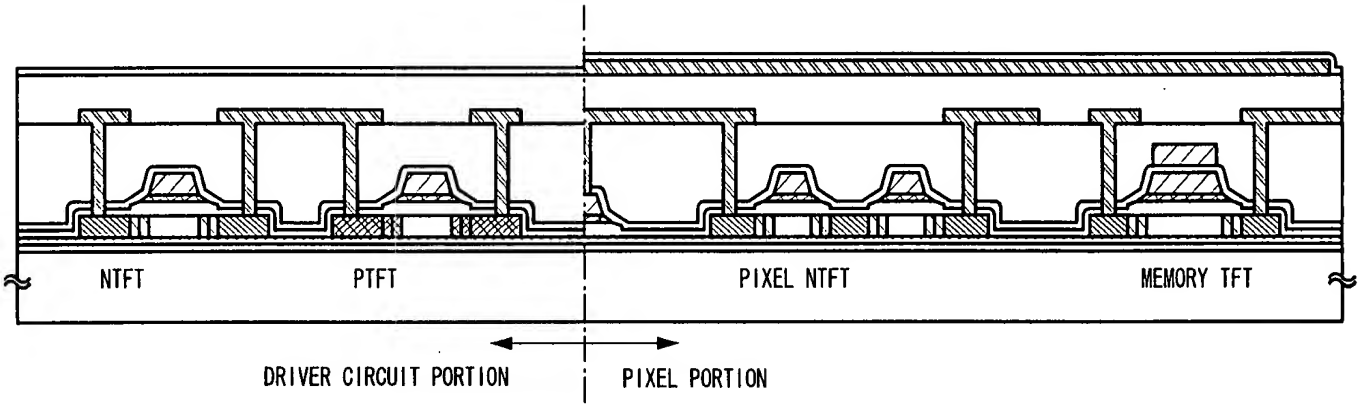
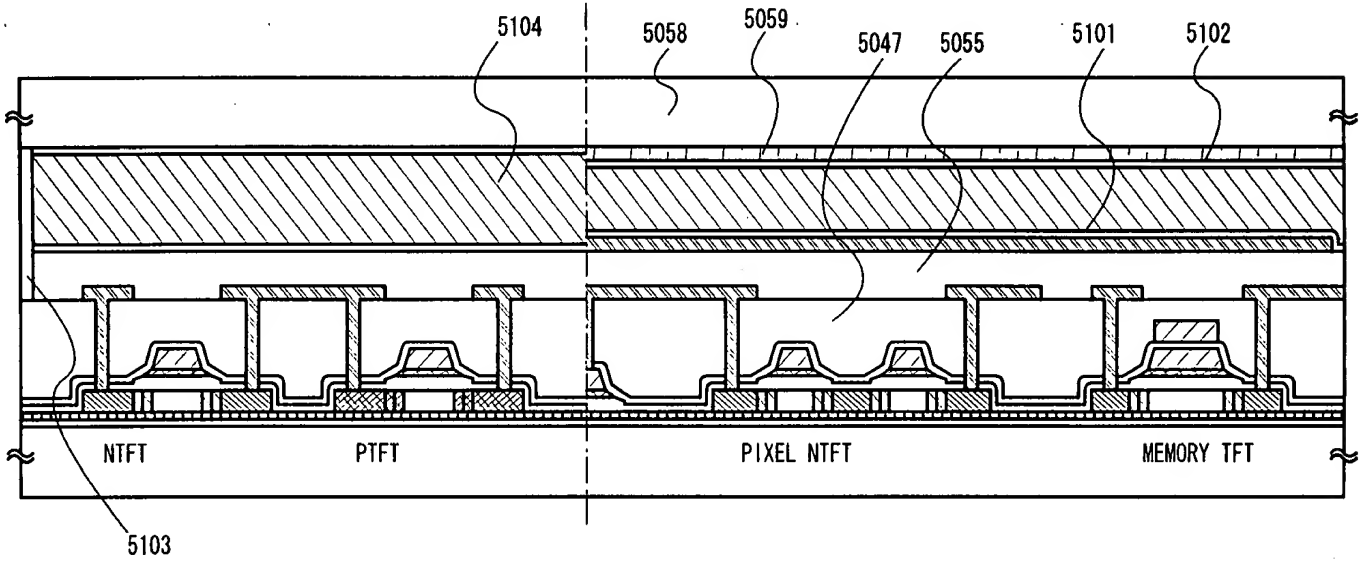



FIG. 19B



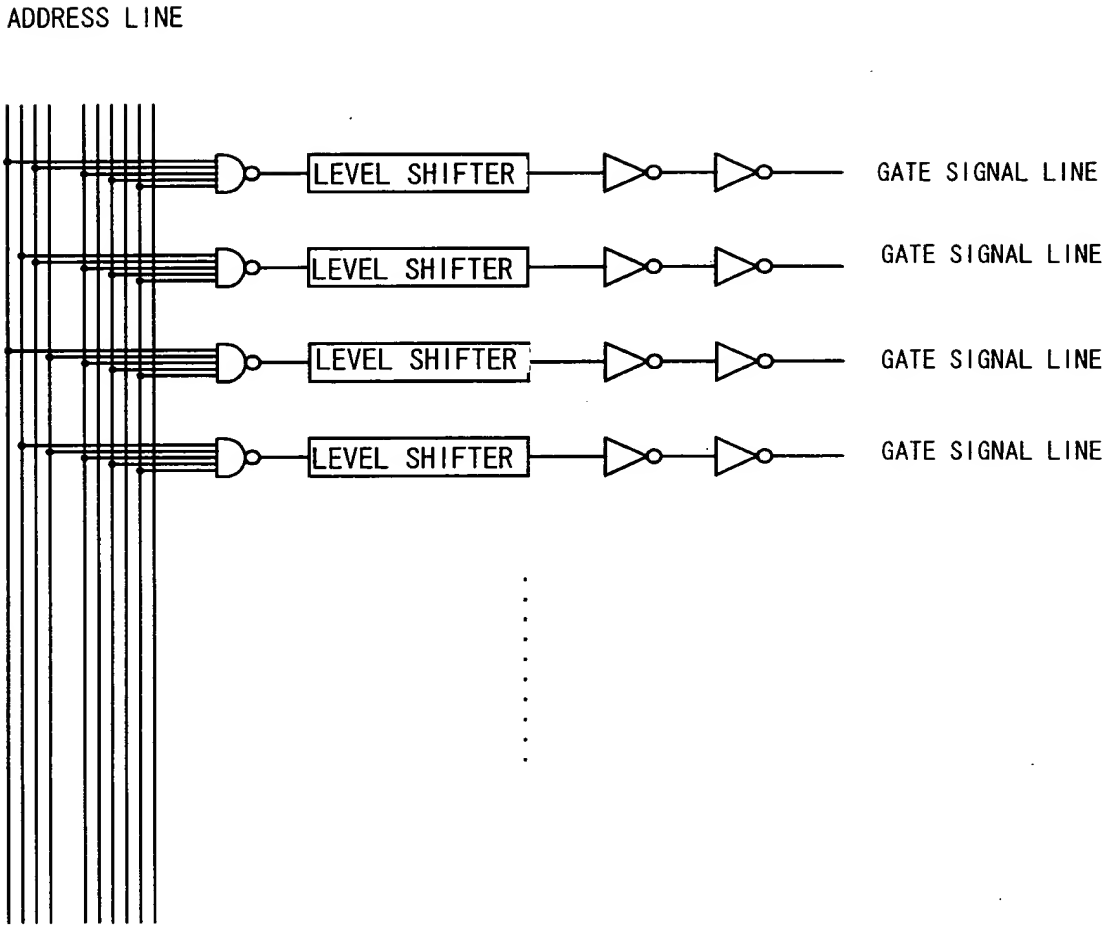

ADDRESS LINE
LEVEL SHIFTER
LEVEL SHIFTER
LEVEL SHIFTER
LEVEL SHIFTER
GATE SIGNAL LINE
GATE SIGNAL LINE
GATE SIGNAL LINE
GATE SIGNAL LINE

FIG. 20

PATENT APPLICATION

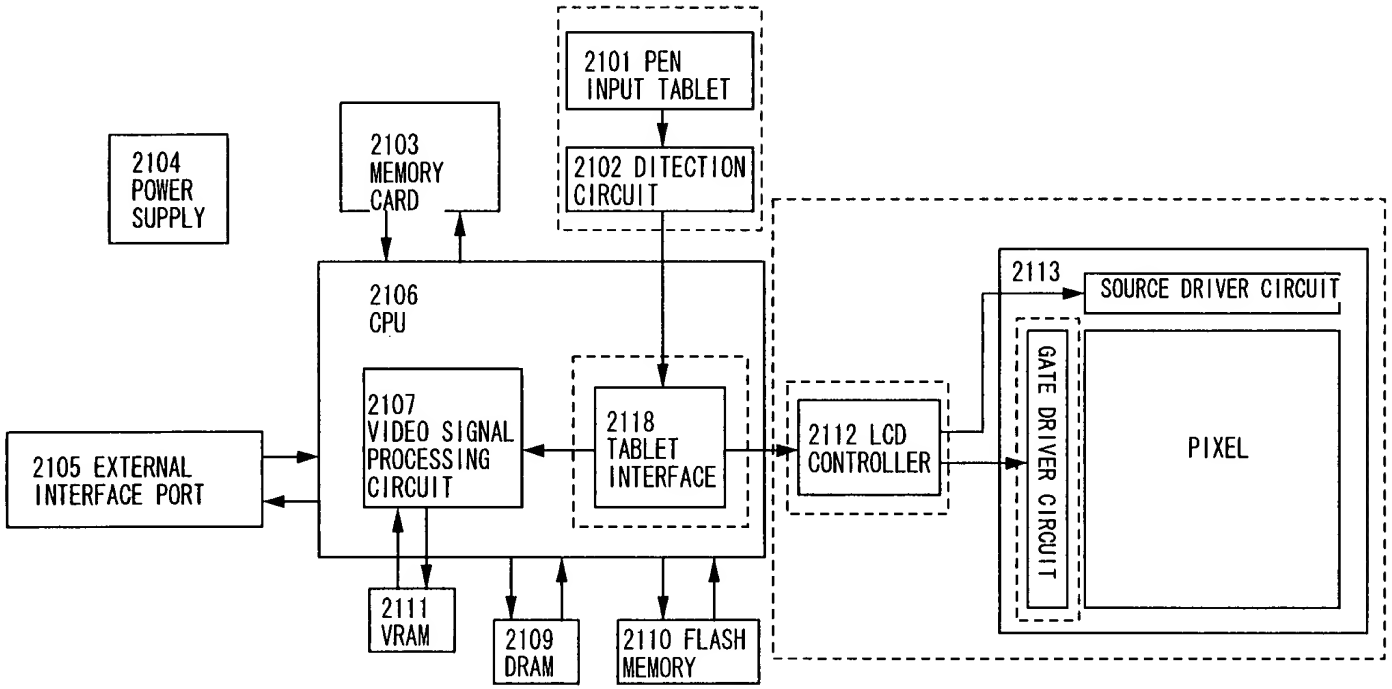



FIG. 21

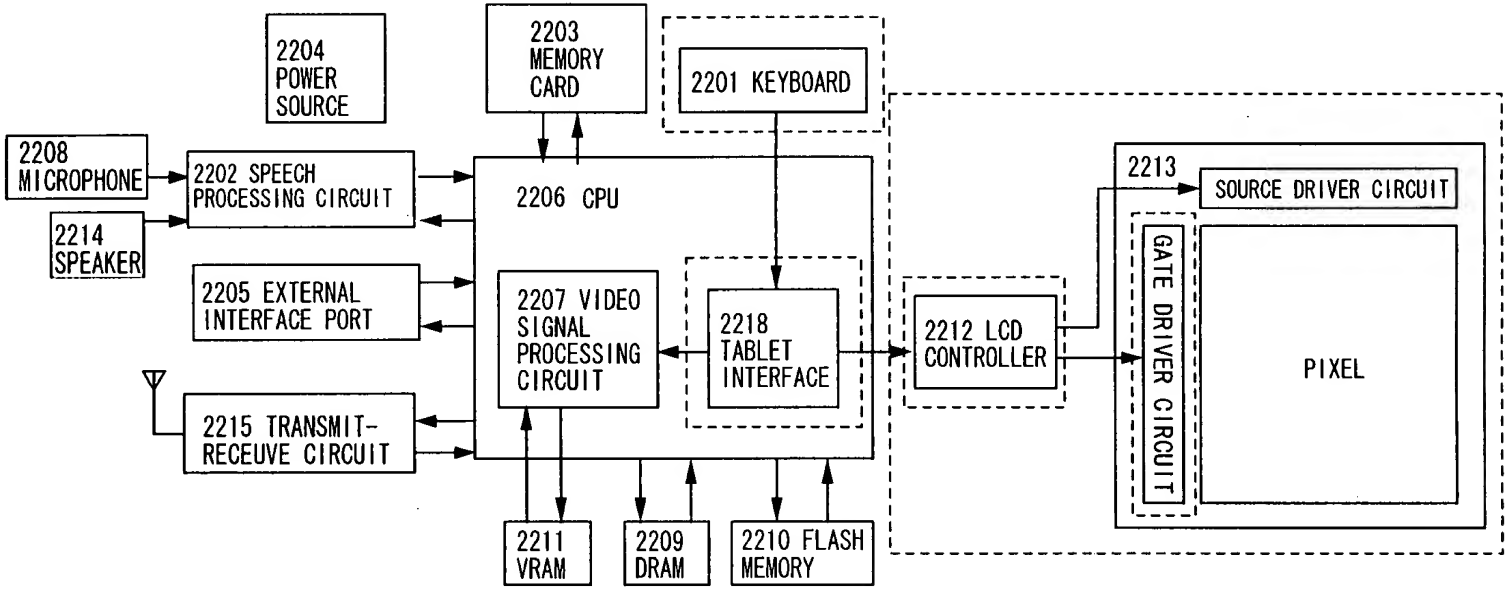

2204
POWER
SOURCE
2203
MEMORY
CARD
2201 KEYBOARD
2208
MICROPHONE
2202 SPEECH
PROCESSING CIRCUIT
2206 CPU
2214
SPEAKER
2205 EXTERNAL
INTERFACE PORT
2207 VIDEO
SIGNAL
PROCESSING
CIRCUIT
2218
TABLET
INTERFACE
2212 LCD
CONTROLLER
2213
SOURCE DRIVER CIRCUIT
GATE DRIVER CIRCUIT
PIXEL
2215 TRANSMIT-
RECEUVE CIRCUIT
2211
VRAM
2209
DRAM
2210 FLASH
MEMORY

FIG. 22

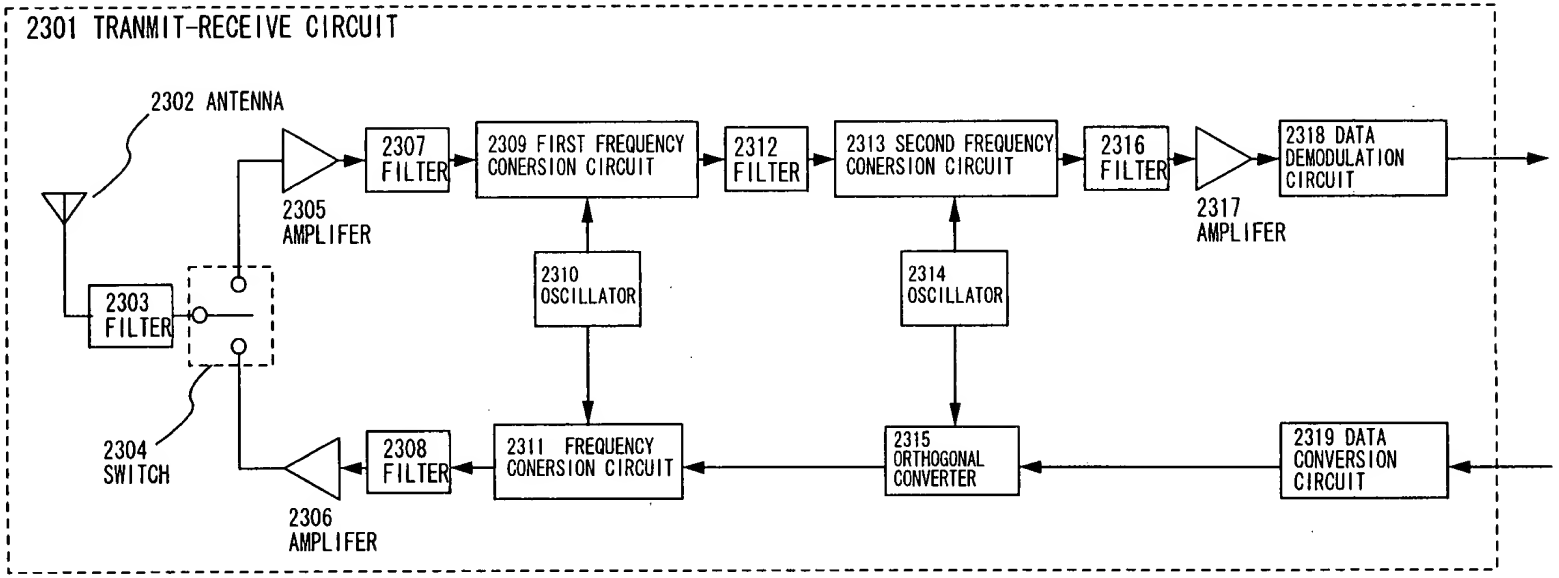

2301 TRANMIT-RECEIVE CIRCUIT
2302 ANTENNA
2303 FILTER
2304 SWITCH
2305 AMPLIFER
2306 AMPLIFER
2307 FILTER
2308 FILTER
2309 FIRST FREQUENCY CONERSION CIRCUIT
2310 OSCILLATOR
2311 FREQUENCY CONERSION CIRCUIT
2312 FILTER
2313 SECOND FREQUENCY CONERSION CIRCUIT
2314 OSCILLATOR
2315 ORTHOGONAL CONVERTER
2316 FILTER
2317 AMPLIFER
2318 DATA DEMODULATION CIRCUIT
2319 DATA CONVERSION CIRCUIT

FIG. 23